I Claim:

1. A method for automatically recognizing or verifying objects in a digital image, said method comprising:

accessing digital image data containing an object of interest therein;

detecting an object of interest in said digital image data;

normalizing said object of interest to generate a normalized object representation;

extracting a plurality of features from said normalized object representation; and

applying each extracted feature to a previously-determined additive probability model to

determine the likelihood that the object of interest belongs to an existing class.

- 2. The method according to claim 1, wherein said previously-determined additive probability model is an Additive Gaussian Model that decomposes the appearance of an object into components corresponding to class and view.
- 3. The method according to claim 1, further comprising: selecting an existing class for said object of interest based on said likelihood; and re-calculating an additive probability model for the selected class using a feature value of the object of interest.
- 4. The method according to claim 1, wherein said object of interest is a face and said method performs face recognition.
- 5. The method according to claim 1, wherein said object of interest is a face and said method performs face verification based on said likelihood.

- 6. The method according to claim 1, wherein said object of interest is a face and said step of detecting an object of interest detects facial features in said digital image data.
- 7. The method according to claim 6, wherein said step of detecting an object of interest utilizes early rejection to determine that an image region does not correspond to a facial feature.
- 8. The method according to claim 1, wherein said object of interest is a face in a digital photo.
- 9. The method according to claim 1, further comprising:
 generating an additive probability model for each of a plurality of classes based on
 feature values for objects belonging to said classes.
- 10. The method according to claim 9, wherein said step of generating an additive probability model for a particular class is repeated each time a detected object of interest is added to the corresponding class.
- 11. The method according to claim 9, wherein said step of generating an additive probability model clusters examples belonging to a single class so as to generate multiple additive probability models for each class identity.

- 12. The method according to claim 9, wherein said step of generating an additive probability model computes a posterior distribution for a feature value mean from at least one example feature value.
- 13. The method according to claim 12, wherein said additive probability model models variance of said feature value mean.
- 14. The method according to claim 13, wherein said variance of said feature value mean approaches zero as more examples are associated with the corresponding class.
 - 15. The method according to claim 1, further comprising:

executing a training stage to identify a set of independent features that discriminate between classes.

- 16. The method according to claim 1, wherein said digital image data represents a digital photo.
- 17. An apparatus for automatically recognizing or verifying objects in a digital image, said apparatus comprising:

a digital image data input for accessing digital image data containing an object of interest therein;

an object detector for detecting an object of interest in said digital image data;

a normalizing unit for normalizing said object of interest to generate a normalized object representation;

- a feature extracting unit for extracting a plurality of features from said normalized object representation; and
- a likelihood determining unit for applying each extracted feature to a previouslydetermined additive probability model to determine the likelihood that the object of interest belongs to an existing class.
- 18. The apparatus according to claim 17, wherein said previously-determined additive probability model is an Additive Gaussian Model that decomposes the appearance of an object into components corresponding to class and view.
- 19. The apparatus according to claim 17, wherein said likelihood determining unit selects an existing class for said object of interest based on said likelihood; and re-calculates an additive probability model for the selected class using a feature value of the classified object of interest.
- 20. The apparatus according to claim 17, wherein said object of interest is a face and said apparatus performs face recognition.
- 21. The apparatus according to claim 17, wherein said object of interest is a face and said apparatus performs face verification based on said likelihood.
- 22. The apparatus according to claim 17, wherein said object of interest is a face and said object detector detects facial features in said digital image data.

- 23. The apparatus according to claim 22, wherein said object detector detects an object of interest utilizing early rejection to determine that an image region does not correspond to a facial feature.
- 24. The apparatus according to claim 17, wherein said object of interest is a face in a digital photo.
- 25. The apparatus according to claim 17, wherein said apparatus generates an additive probability model for each of a plurality of classes based on feature values for objects belonging to said classes.
- 26. The apparatus according to claim 25, wherein said apparatus repeats generating an additive probability model for a particular class each time a detected object of interest is added to the corresponding class.
- 27. The apparatus according to claim 25, wherein said apparatus generates an additive probability model by clustering examples belonging to a single class so as to generate multiple additive probability models for each class identity.
- 28. The apparatus according to claim 25, wherein said apparatus generates an additive probability model by computing a posterior distribution for a feature value mean from at least one example feature value.

- 29. The apparatus according to claim 28, wherein said additive probability model models variance of said feature value mean.
- 30. The apparatus according to claim 29, wherein said variance of said feature value mean approaches zero as more examples are associated with the corresponding class.
- 31. The apparatus according to claim 17, wherein said apparatus executes a training stage to identify a set of independent features that discriminate between classes.
- 32. The apparatus according to claim 17, wherein said digital image data represents a digital photo.